

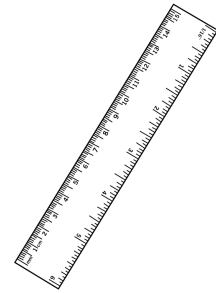


## Task Ravnalo

Architect Hrvoje has been tasked with drawing a large irregular wall composed of vertical columns.

The wall consists of  $n$  columns placed next to each other, where the  $i$ -th column has height  $a_i$  and width 1. In order to make the drawing as complicated as possible, the  $i$ -th column is divided into  $b_i$  parts of equal height.

Hrvoje has only a ruler and a pencil at his disposal. With one stroke of the pencil he can draw one line segment (a straight line between two points) without lifting the pencil. His goal is to draw the entire wall, including all column edges and all boundaries between their divisions, using as few line segments as possible.



For the given wall, output the minimum number of line segments that need to be drawn in order to draw the wall completely.

### Input

The first line contains a natural number  $n$  ( $1 \leq n \leq 10^5$ ), the number from the problem statement.

The second line contains a sequence of  $n$  numbers  $1 \leq a_i \leq 10^9$ , from the problem statement.

The third line contains a sequence of  $n$  numbers  $1 \leq b_i \leq 10^9$ , from the problem statement.

### Output

In the first and only line output one number – the minimum number of line segments Hrvoje needs to draw to draw the wall.

### Scoring

Subtask	Points	Constraints
1	11	$N = 1$
2	13	$N = 2, 1 \leq a_i, b_i \leq 10$
3	29	$1 \leq a_i \leq 10^6, b_i$ divides $a_i$ for every $1 \leq i \leq n$
4	57	No additional constraints.

### Sample tests

**input**

3  
4 6 4  
2 3 4

**output**

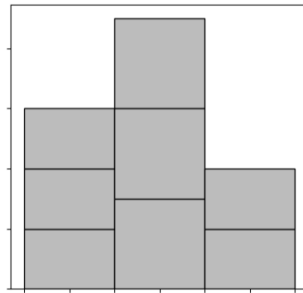
10

**input**

3  
4 6 3  
3 3 2

**output**

12



**Pojašnjenje drugog probnog primjera:** Hrvoje will extend the topmost line segment in the first column into the second column and thus “merge” 2 line segments into one. He will do the same with the 3 line segments at the bottom of the wall. This way, he will draw a total of 12 line segments, and it can be shown that this is the minimum number of line segments that Hrvoje needs to draw.